Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

A280.39
M34Amv
Cof 3 AMS-409

DEC 23
U. S. DEPT OF AGRICULTURE

# TANK STORAGE FACILITIES FOR FATS AND OILS EXPAND SHARPLY DURING 1950's 1/

By
John W. Thompson
Marketing Economics Research Division

Commercial bulk tank storage facilities and operations play an important role in the marketing system for fats and oils. Commercial facilities are contrasted from private facilities which usually are not available to the general public on a lease or rent basis. Because production of most fats and oils is seasonal, while disappearance is relatively uniform throughout the year, bulk tank storage facilities are necessary to help stabilize the flow of fats and oils from producers to consumers. As part of our expanding marketing system, bulk storage facilities are necessary at centrally located terminals where large volumes of various fats and oils must be assembled for export, reshipment, or distribution to domestic consumers. Reserve stocks of fats and oils are also needed for national emergencies when demand for fats and oils usually is great and a reallocation of supplies becomes necessary.

This article covers commercial tank storage facilities in the United States and those Canadian facilities immediately adjacent to the U. S. It indicates by areas the capacity and handling facilities of commercial storage sites as well as the changes that occurred between 1949 and 1959. With this information, industrial and transportation agencies may develop use of tank storage facilities for fats and oils more efficiently. Private storage facilities are not covered in this report.

The capacity of commercial storage facilities for fats and oils in the United States increased from 1.6 million short tons in 1949 to 5.5 million short tons in 1959. Additional commercial facilities of 332 thousand short tons are available at nearby Canadian terminals (table 25). The number of commercial storage firms increased from 17 in 1949 to 36 in 1959 while the number of bulk storage sites in operation by commercial firms increased from 36 to 52. An additional 10 sites in Canada were included in the count, made in 1959. Commercial bulk storage facilities utilized 84 percent of their total capacity during the most active storage month and 63 percent during their least active month of 1959 (table 26).

Increases in commercial storage capacity and storage operations in the last decade are associated with increases in the production and exports of fats and oils. The U. S. production of edible and inedible fats and oils expanded from 12 billion pounds in 1949 to 18 billion pounds in 1959. During the same period, exports of fats and oils increased from 2.3 billion pounds to 5.3 billion pounds (oil equivalent). Canadian production increased during the same period from 679 to 974 million pounds, and exports from 179 to 413 million pounds (oil equivalent).

---

1/ The study was done in cooperation with the Bureau of Raw Materials for the American Vegetable Fats and Oils Industry which supplied data during 1949 and 1959.

Reprinted from Fats and Oils Situation, September 1960, by Marketing Economics Research Division AMS, U. S. Department of Agriculture.

Table 25.--Location and capacity of commercial tank storage terminals for fats and oils in the United States and Canada, 1949 and 1959

| Area | 1949 | | | 1959 | | |
|---|---|---|---|---|---|---|
| | No. sites 1/ | Capacity | | No. sites 1/ | Capacity | |
| | Number | Short tons | Percent | Number | Short tons | Percent |
| Terminals | | | | | | |
| Gulf | 12 | 1,138,134 | 70 | 14 | 3,357,467 | 57 |
| Atlantic | 9 | 416,517 | 26 | 17 | 1,081,745 | 19 |
| Great Lakes | 1 | 18,000 | 1 | 6 | 831,342 | 14 |
| Canada 2/ | | | | 10 | 322,304 | 5 |
| West Coast | 7 | 53,196 | 3 | 8 | 154,794 | 3 |
| Inland | | 3/ | | 7 | 109,300 | 2 |
| Total | 29 | 1,625,847 | 100 | 62 | 5,856,952 | 100 |

1/ In 1949, 17 firms owned 29 plants or storage sites; in 1959, 36 firms owned 62 storage sites. 2/ Data not collected in 1949. 3/ No inland facilities reported in 1949.

Table 26.--Utilization of capacity and handling facilities for commercial stored fats and oils in the United States and Canada, 1959

| Area | Total capacity | Capacity utilized | | Handling facilities (based on total capacity) | |
|---|---|---|---|---|---|
| | | Most active month | Least active month | Heating | Pumping (24 hours) |
| | Short tons | Percent | Percent | Percent | Percent |
| Terminals | | | | | |
| Gulf | 3,357,467 | 86 | 71 | 49 | 6 |
| Atlantic | 1,081,745 | 70 | 47 | 85 | 8 |
| Great Lakes | 831,342 | 90 | 48 | 45 | 6 |
| Canada | 322,304 | 97 | 78 | 85 | 26 |
| West Coast | 154,794 | 81 | 56 | 83 | 22 |
| Inland | 109,300 | 82 | 43 | 69 | 9 |
| Total or average 1/ | 5,856,952 | 84 | 63 | 58 | 9 |

1/ Weighted averages.

Tank storage is quite flexible and in an emergency it can be used for fats, oils, molasses, petroleum, and chemicals. Shifting from fats and oils to molasses, petroleum or chemicals is rare--more common are shifts between edible and inedible fats and oils. In periods of surplus production, competition arises among the various fats and oils for storage facilities and most commercial storage facilities adjust their operations to accommodate the increased demand for bulk storage. Sixteen of the 62 commercial fats and oils storage sites stored 1 commodity; 14, 2 commodities; and 32 stored 3 or more commodities in 1959. Fourteen of the storage sites with a combined capacity of 155 thousand short tons reported handling fats and oils exclusively.

The location of commercial storage sites at port terminals is related to the need for bulk handling facilities necessary for exporting and importing a large volume of fats and oils. Over half of the total North American commercial storage capacity is located at Gulf ports. Atlantic, Great Lakes, Canadian and West Coast seaport terminals follow, in order of capacity. Over the last 10 years Great Lakes ports increased the most--from 18,000 tons in 1949 to 831,000 tons in 1959. With the opening of the St. Lawrence Seaway, increasing amounts of fats and oils are being imported and exported through the Great Lakes. Less than 2 percent of the total commercial capacity surveyed was located away from water transport. Commercial storage sites are usually located at port terminals, but private facilities are mostly inland, serving major fats and oils producing and manufacturing areas.

Transporting fats and oils by water usually is less costly than shipping by rail or truck. Of the 62 commercial storage sites in the United States and Canada, 56 were accessible by water and had facilities for loading and unloading barges or ships. These included inland storage sites, many of which were located on rivers. The combined capacity of those sites without facilities for handling barges and ships was 110,000 tons, or less than 2 percent of the total capacity surveyed. Sixty-one sites had facilities for loading and unloading tank cars and tank trucks while 50 sites had drumming facilities.

Facilities were available for heating 58 percent of the commercial storage capacity (table 26). Most fats and oils solidify at low temperatures and heating coils in the bulk tanks are necessary to melt the fats for pumping. Canadian storage sites, located in a cold climate, had facilities for heating 85 percent of their storage capacity, Gulf terminals, located in a warm climate, had heating facilities for less than half of their bulk storage capacity.

Permanent pumping facilities located at the storage sites could move 9 percent of the total U. S. and Canadian capacity into or out of storage in a 24-hour period (table 26). Many firms had limited pumping facilities and utilized the pumps on tank trucks and ships to load into or out of their bulk tanks.